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**STATEMENT OF WORK
FOR RD/RA CONSENT DECREE
EPA - Region X**

**APPENDIX B
STATEMENT OF WORK FOR THE EASTERN MICHAUD FLATS SUPERFUND SITE
SIMPLOT OPERABLE UNIT
POCATELLO, IDAHO**

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**STATEMENT OF WORK FOR THE
REMEDIAL DESIGN AND REMEDIAL ACTION
AT THE EASTERN MICHAUD FLATS SITE
SIMPLOT PLANT AREA**

I. INTRODUCTION

This Statement of Work (SOW) outlines the work to be performed by Settling Defendant for the Simplot Plant Area at the Eastern Michaud Flats Superfund Site in Bannock and Power Counties Idaho ("the Site"). The work outlined is intended to fully implement the Simplot Plant Area portion of the remedy as described in the Record of Decision (ROD) for the Site, dated June 8, 1998, and to achieve the Performance Standards set forth in the Consent Decree and this SOW. The requirements of this SOW will be further detailed in work plans and other documents either attached hereto or to be submitted by the Settling Defendant for approval as set forth in this SOW. It is not the intent of this document to provide task specific engineering or geological guidance. The definitions set forth in Section IV of the Consent Decree shall also apply to this SOW unless expressly provided otherwise herein.

Settling Defendant is responsible for performing the work to implement the selected remedy. EPA shall conduct oversight of the Settling Defendant's activities throughout the performance of the work. The Settling Defendant shall assist EPA in conducting oversight activities.

EPA review or approval of a task or deliverable shall not be construed as a guarantee to the adequacy of such task or deliverable. If EPA modifies a deliverable pursuant to Paragraph 14 of the Consent Decree, such deliverable as modified shall be deemed approved by EPA for purposes of this SOW. A summary of the major deliverables that Settling Defendant shall submit for the work is presented in Section V.

II. OVERVIEW OF THE REMEDY

The overall objectives of the remedial actions for the Site are to provide an effective mechanism for protecting human health and the environment from contaminated Site soils and ground water. To address the potential risks from the Site, the following ROD cleanup objectives were developed:

- Reduce the exposure to radon that would occur in future buildings constructed within the Simplot Plant Area under a future industrial scenario.
- Prevent external exposure to radionuclides in soils at levels that pose estimated excess cancer risks greater than 1×10^{-4} , or Site-specific background levels where that is not practicable.
- Prevent ingestion or inhalation of soils containing Contaminants of Concern (COCs) at levels that pose estimated excess risks above 1×10^{-4} , a non cancer risk HQ of 1, or Site-specific background levels where that is not practicable.

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- Reduce the release and migration of COCs to the ground water from facility sources that may result in concentrations in ground water exceeding risk-based concentrations (RBCs) or chemical specific Applicable or Relevant and Appropriate Requirements (ARARs), specifically Maximum Contaminant Levels (MCLs).
- Prevent potential ingestion of ground water containing COCs having concentrations exceeding RBCs or MCLs (chemical specific ARARs) (see Table 36 of the ROD). The RBCs shown in Table 36 correspond to a cancer risk of 10^{-6} or a Hazard Index of 1.0.
- Restore ground water that has been impacted by Site sources to meet all RBCs or MCLs for the COCs

III. REMEDY

The remedy for the Simplot Plant Area includes groundwater extraction and monitoring, excavation of contaminated soils, monitoring, and institutional controls.

A. Components

The major components of the remedy are generally described in Section 10.1 of the attached ROD and in more detail in Section III.D below. The major components of the remedy presented in the ROD are as follows:

- Remediation of ground water in the Simplot Plant Area will consist of installation of a network of shallow ground water wells on the northern edge of the gypsum stack and/or downgradient of the Nitrogen Solutions Plant, and the installation of extraction pumps and conveyance piping. The extracted ground water will be recycled into the Don Plant Process.
- Ground water monitoring and evaluation shall be conducted as part of the cleanup remedy for the Simplot Plant Area to determine the effectiveness of the extraction system and other source control measures in reducing contamination and preventing migration of contaminants to the Off-Plant Area.
- The selected remedy for the Dewatering Pit is to excavate solids (primarily phosphate ore residue), dispose of the excavated material on the gypsum stack and cover the excavated area with soil and vegetation. Similar action will be taken at the East Overflow Pond, except the area will be covered with a new double lined surface impoundment for collection of non-hazardous plant water.
- Simplot shall implement legally enforceable land use controls that will run with the land (i.e., deed restrictions, limited access, well restrictions and/or well head protection) to prevent ingestion of ground water with COCs above MCLs or RBCs.

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B. Treatment

The groundwater extraction system described in the ROD calls for recycling of the extracted ground water into the Don Plant Process. If this option is not feasible, then extracted ground water may have to undergo treatment. In such a case treatment technologies shall be developed.

C. Performance Standards

Settling Defendant shall meet all performance standards, as defined in the Consent Decree, including the standards set forth in this SOW as described below.

D. Description of Remedial Actions, Objectives, and Performance Standards

This section sets forth the elements of work to be performed pursuant to this consent decree, states the objectives, and presents the specific performance standards for the work. The following elements of work are intended to provide a synopsis of the pertinent remedial actions that are described in the 1998 ROD for the Simplot Plant Area.

1. Former East Overflow Pond

This element of work involves the excavation of gypsum sediments from the area of the Former East Overflow Pond and the construction of a new, lined impoundment. This work has been completed.

- a. The objective was to reduce the potential for infiltration through potential source materials.
- b. The performance of this element of work will be evaluated by monitoring groundwater for the contaminants of concern at upgradient and down gradient locations.

2. Dewatering Pit

The Dewatering Pit element of work includes excavation of phosphate ore residuals from the Dewatering Pit, disposal of excavated materials on the gypsum stack, and covering the excavated area with soil and vegetation.

- a. The objective is to prevent incidental worker exposure to the solids in the Dewatering Pit by removing residual solids from the pit area.
- b. The performance standard for this element of work will be removal of residual Dewatering Pit solids as verified through confirmatory soil sampling.

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3. Gypsum Stack Roads

The Gypsum Stack Roads element of work includes control of fugitive emissions from permanent roads on the gypsum stack. Several alternatives exist to address the objectives for these roads. These alternatives include road base placement over a geofabric, and various combinations of periodic applications of water with or without additives. A treatability study of the alternatives will be conducted to assess which method or combination of methods is most effective.

- a. The objective of this element of work is to reduce visible fugitive emissions generated by vehicular traffic on permanent roads located on the face of the gypsum stack.
- b. The performance standard for this element of work is the successful implementation of the final design.

4. Groundwater Extraction

The Groundwater Extraction system shall consist of a network of shallow and deep extraction wells located near the northern edge of the gypsum stack and also includes any engineering controls to reduce the volume of water on the surface of the gypsum stack. The extracted groundwater will be conveyed to the Don Plant and recycled into the Don Plant process water system.

EPA recognizes that operation of the extraction system may not necessarily result in achievement of the MCLs or RBCs throughout the plant area and has not identified this as performance criteria until closure of the gypsum stack. After closure of the gypsum stack operation and maintenance of this system will continue until COCS in groundwater throughout the Simplot OU are reduced to below MCLs or RBCs, or until EPA determines that continued groundwater extraction would not be expected to result in additional cost effective reduction in contaminant concentrations within the Simplot Plant Area. Institutional controls will remain in place to control groundwater use until MCLs or RBCs are achieved in the Simplot Plant Area.

- a. The objective of the extraction well system is to prevent the migration of arsenic and other COCs at concentrations above MCLs or RBCs into the Off-Plant Area. Where there is an MCL, the MCL shall control. The extraction system, in combination with the Institutional Controls Program and the Groundwater Monitoring Program, will address this remedial action objective and the overarching objective of protecting human health and the environment. The extraction system shall operate at least as long as the gypsum stack is receiving gypsum.
- b. Performance standards for the groundwater extraction system are as follows:
 - Demonstrate hydraulic control for groundwater influenced by gypsum stack seepage. Preliminary work indicates the cumulative annual average pumping rate necessary to achieve hydraulic control during operation of the

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gypsum stack is 750 gpm. The annual average pumping rate will be established through system design, including the schedule for implementation and achievement of the required pumping rate. At a minimum, the implementation schedule will allow for a system startup period of one year.

- Once the annual average pumping rate has been achieved, the performance standard will be the MCLs or RBCs for arsenic and other contaminants of concern, as measured at Batiste Spring and any other appropriate Off-Plant Area locations as determined by EPA. Where there is an MCL, the MCL shall control.

5. Groundwater Monitoring

The Groundwater Monitoring element of work includes sampling and analysis of groundwater from selected wells, and the evaluation and reporting of monitoring data.

- a. The objective of groundwater monitoring is to collect sufficient data of adequate quality to evaluate the performance of the extraction system and other source control measures in reducing the extent and concentration of arsenic and other contaminants of concern in groundwater in the Simplot Plant Area and in preventing migration of arsenic and other COCs into the Off-Plant Area at concentrations above MCLs or RBCs. Where there is an MCL, the MCL shall control. Specifically, components of the monitoring program will provide data to document the effectiveness of the extraction system in capturing seepage from the gypsum stack, to track water quality in areas potentially affected by sources other than gypsum stack seepage, and to confirm the attainment of performance standards and the long-term effectiveness of the remedy.
- b. Performance standards for Groundwater Monitoring are as follows:
 - Groundwater samples will be collected from wells on a quarterly basis for a period of five years and the samples analyzed for arsenic and other site related constituents. The specific wells to be monitored, the analytes, and the data evaluation procedures will be provided in the draft Groundwater Monitoring Remedial Design Report.
 - After the five-year period, the monitoring locations and frequency will be evaluated and monitoring will continue on at least a semiannual basis.
 - Monitoring of Batiste Spring and other appropriate locations in the Off-Plant Area, as determined by EPA, will be initiated on a quarterly basis at the time of system startup. After successful demonstration of compliance with the performance standard, as described in Section III.D.4.b, samples will be collected semi-annually. The data evaluation procedures will be provided in the draft Groundwater Monitoring Remedial Design Report.

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6. Simplot Plant Area Institutional Controls Program

Institutional controls for the Simplot Plant Area include 1) preparation and use of a worker information sheet in annual training and new worker training to inform workers of potential health hazards associated with the Superfund process at the facility, 2) providing mitigation measures to control exposure of gypsum stack workers to external gamma radiation, 3) identifying areas where gross alpha levels in soils are above the soil screening level and providing a procedure to require any future office buildings in these areas to be constructed using radon-controlling methods and to be monitored annually for radon in indoor air, 4) implementing legally enforceable land use controls to prevent ingestion of ground water with COCs above MCLs (as long as groundwater concentrations exceed the MCLs), and 5) implement legally enforceable land use controls to eliminate the possibility of future residential land use of the Simplot Plant Area.

- a. The objectives of this element of work are as stated above.
- b. The performance standard for this element of work is implementation of the Simplot Plant Area Institutional Controls Program, which will include the five sub-elements described above.

IV. DESCRIPTION OF PLANS AND REPORTS

The specific scope of this work shall be documented by Settling Defendant in Remedial Design Reports (RDRs) and Remedial Action (RA) Work Plans. Plans, specifications, submittals, and other deliverables shall be subject to EPA review and approval in accordance with Section XI of the Consent Decree. The deliverables and schedule for submitting deliverables are provided in Sections V and VI, respectively, of this SOW.

Settling Defendant shall prepare the following plans and reports, as required by EPA, to plan, implement and document performance of the remedy:

A. General Project Management

1. Progress Reports

Simplot will provide EPA with signed monthly progress reports as appropriate in compliance with the approved schedule in the RA Work Plans during the construction phase and semi-annual progress reports for operation and maintenance activities. Progress reports shall be divided into separate sections providing the status of the individual elements of work under this SOW. The reports shall include, but are not limited to, the following basic information.

- Introduction, including the scope and general purpose of the work currently being conducted
- Activities/tasks undertaken during the reporting period, and expected to be undertaken during the next reporting period

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- Deliverables and milestones completed during the reporting period, and expected to be completed during the next reporting period
- Identification of issues and actions that have been or are being taken to resolve the issues
- Status of the overall project schedule and any proposed schedule changes

2. Technical Memoranda

Technical Memoranda are the mechanism for requesting modification of plans, designs, and schedules. In the event that EPA or Simplot determines that modification of an approved plan, design, or schedule is necessary, Simplot shall submit a memorandum describing the modification to the EPA Project Coordinator that includes, but is not limited to, the following information.

- General description of, and purpose of, the modification
- Justification, including any calculations, for the modification
- Actions to be taken to implement the modification
- Recommendations

B. Project Planning

The Settling Defendant shall gather and evaluate all existing data and information, including that contained in the RI/FS reports, the ROD, preliminary design studies and construction completion documents, and complete all project scoping and planning activities needed for RD/RA implementation. These data evaluation and planning activities shall be documented in the draft RDRs.

Once Settling Defendant has collected and evaluated existing data, the specific project scope shall be planned. Settling Defendant shall meet with EPA at the completion of this evaluation regarding the following activities and before proceeding with remedial design.

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C. Remedial Design

The Remedial Design shall provide the technical details for implementation of the remedial action in accordance with currently accepted environmental protection technologies and standard professional engineering and construction practices. The design shall include clear and comprehensive design plans and specifications.

1. Remedial Design Planning

The settling defendant has conducted preliminary work towards the development of draft RDRs for each element of work. This information shall be presented to EPA at a general project planning meeting and will serve as a basis for scoping for the remedial design activities. The results of the scoping process shall be documented in a Project Scoping Document that includes a summary of the meeting with EPA and references to other existing documents used in planning the remedial design.

2. Draft Remedial Design

The draft RDRs shall include the following components, as necessary.

a. Results of Data Acquisition Activities

Data gathered during the project planning phase shall be compiled, summarized, and submitted along with an analysis of the impact of the results on design activities. In addition, surveys conducted to establish topography, rights-of-way, easements, and utility lines shall be documented. Utility requirements and acquisition of access, through purchases or easements, that are necessary to implement the RA shall also be discussed.

b. Design Criteria

The concepts supporting the technical aspects of the design shall be defined in detail and presented in this report. Specifically, the RDRs shall include the preliminary design assumptions and parameters, where applicable, including:

- i. Waste characterization
- ii. Pretreatment requirements
- iii. Volume of each media requiring treatment
- iv. Treatment schemes (including all media and by-products)
- v. Input/output rates
- vi. Influent and effluent qualities
- vii. Materials and equipment

viii. Performance standards

ix. Long-term monitoring requirements

c. Preliminary Plans and Specifications

The RDRs shall include, at a minimum, an outline of the required drawings, including preliminary sketches and layouts, describing conceptual aspects of the design, unit processes, and specifications. If appropriate, an outline of the required specifications, including Performance Standards, shall be submitted. Construction drawings shall reflect organization and clarity, and the scope of the technical specifications shall be outlined in a manner reflecting the final specifications.

d. Plan for Satisfying Permitting Requirements

All activities must be performed in accordance with the requirements of all applicable federal, state, and tribal laws and regulations. Any off-site disposal shall be in compliance with the policies stated in the Procedure for Planning and Implementing Off-site Response Actions (Federal Register, Volume 50, Number 214, November, 1985, pages 45933-45937) and Federal Register, Volume 55, Number 46, March 8, 1990, page 8840, and the National Contingency Plan, Section 300.440. The plan shall identify the off-site disposal/discharge permits that are required, the time required to process the permit applications, and a schedule for submittal of the permit applications. No off-site disposal or discharge permits are required for the planned remedial actions.

e. Sampling and Analysis Plan

Settling Defendant shall prepare a Sampling and Analysis Plan (SAP) to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that the data generated will meet the DQOs established. The SAP shall include a Field Sampling and Analysis Plan (FSAP) and a Quality Assurance Project Plan (QAPP).

The FSAP shall define in detail the sampling and data-gathering methods that shall be used on the project. It shall include sampling objectives, sample location (horizontal and vertical) and frequency, sampling equipment and procedures, and sample handling and analysis. The FSAP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The QAPP shall describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that shall be used to achieve the desired DQOs. The DQOs shall, at a minimum, reflect the use of analytical methods for obtaining data of sufficient quality to meet National Contingency Plan requirements. In addition, the QAPP shall address personnel qualifications, sampling procedures, sample custody, analytical procedures, data reduction, data validation, and reporting. These procedures must be constant with the guidances specified in the Section VIII of the Consent Decree.

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Settling Defendant shall demonstrate in advance and to EPA's satisfaction that each laboratory it may use is qualified to conduct the proposed work and meets the requirements specified in Section VIII of the Consent Decree. EPA may require that Settling Defendant submit detailed information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment and material specification, and laboratory analyses of performance samples (blank and/or spike samples). In addition, EPA may require submittal of data packages equivalent to those generated by the EPA Contract Laboratory Program (CLP).

f. Health and Safety Plan

A Health and Safety Plan shall be prepared in conformance with Settling Defendant's health and safety program, and in compliance with OSHA Regulations and protocols. The Health and Safety Plan shall include a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and provisions for site control. EPA will not approve Settling Defendant's Health and Safety Plan, but rather EPA will review it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and environment.

g. Treatability Study Work Plan (If determined to be applicable by EPA)

Settling Defendant shall prepare a Treatability Study Work Plan for EPA review and approval. This Work Plan may be incorporated with the Draft or Pre-final Remedial Design Report. The purpose of the Treatability Study is to determine if the particular technology or vendor of this technology is capable of meeting the Performance Standards. The Treatability Study Work Plan shall describe the treatment technologies to be tested, and test objectives, experimental procedures, treatability conditions to be tested, measurements of performance, sampling and analytical methods, data management and analysis, health and safety, and residual waste management. The DQOs for the treatability study shall be documented as well. The Treatability Study Work Plan shall also describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, and operating conditions to be tested. If testing is to be performed off-site, permitting requirements shall be addressed. A schedule for performing the treatability study shall be included with specific dates for the tasks, including, but not limited to, the procurement of contractors and the completion of sample collection, performance, sample analysis, and report preparation. The Work Plan shall describe in detail the treatment process and how the proposed technology, vendor, and study approach appropriate for the remedy selected for the Site. The Treatability Study Work Plan shall also address how Settling Defendant proposes to meet all discharge requirements for any and all treated material, air, water and expected effluents. Additionally, the Work Plan shall also explain the proposed final treatment and disposal of all material generated by the proposed treatment system. Any and all permitting requirements shall also be addressed.

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i. *Treatability Study Health and Safety Plan*

If EPA determines that the Remedial Design Health and Safety Plan is not adequate for defining the activities to be performed during the Treatability Study, a separate Treatability Study Health and Safety Plan shall be developed by Settling Defendant. EPA will not approve Settling Defendant's Health and Safety Plan, but rather EPA will review it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and environment.

ii. *Treatability Study Final Report*

Following completion of the study, Settling Defendant shall submit a report on the performance of the technology to EPA for review and approval. EPA will evaluate the results of the treatability study for completeness and appropriateness based on site conditions. The study results shall indicate clearly the performance of the technology or vendor compared with the performance standards established for the Site. The report shall evaluate the treatment technology's effectiveness, implementability, cost, and actual results as compared with predicted results. The report shall also evaluate full-scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation. The study results shall be submitted to EPA immediately upon completion of the study. Should the results indicate that the proposed technology will meet the performance standards, EPA will instruct Settling Defendant to include the Treatability Study Final Report in the Pre-final Remedial Design Report and the study results and operating conditions shall be used in the detailed design of the selected remedy. EPA approval of the Treatability Study Final Report shall mean only that EPA finds the study methodology acceptable. EPA approval of the study, results, or the Treatability Study Final Report shall not imply or be construed to mean that EPA is warranting the performance of this or any vendor or technology. Should the treatability study not be approved by EPA, additional treatability studies may be required to fully evaluate the available treatment systems.

3. *Intermediate Design*

The Settling Defendants have developed preliminary draft Remedial Design Reports for the major elements of work. Considering the existence of draft design documents and the straight forward nature of the required designs intermediate design development will not be required.

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4. Prefinal/Final Remedial Design

Settling Defendant shall submit the Prefinal Remedial Design Report when the design work is approximately 90 percent complete in accordance with the approved design management schedule. Settling Defendant shall address comments generated from the Draft Remedial Design Report review and clearly show any modification of the design as a result of incorporation of the comments. Essentially, the Prefinal Design shall function as the draft version of the Final Design. After EPA review and comment on the Prefinal Design, the Final Remedial Design Report shall be submitted along with a memorandum indicating how the Prefinal Design comments were incorporated into the Final Design. All Final Design documents shall be certified by a Professional Engineer registered in the State of Idaho. EPA written approval of the Final Design is required before initiating the RA, unless specifically authorized in writing by EPA. The following items shall be submitted with or as part of the Prefinal/Final Design:

a. Complete Design Analyses

The selected design shall be presented along with an analysis supporting the design approach. Design calculations shall be included, as appropriate.

b. Final Plans and Specifications

A complete set of construction drawings and specifications shall be submitted which describe the selected design.

c. Final Construction Schedule

Settling Defendant shall submit a final construction schedule to EPA for approval.

d. Construction Cost Estimate

An estimate within +15 percent to -10 percent of actual construction costs shall be submitted.

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D. Remedial Action

Remedial Action shall be performed by Settling Defendant to implement the remedy described in the ROD, and more fully detailed in this SOW.

1. Remedial Action Planning

Concurrent with the submittal of the Final Design, Settling Defendant shall submit a draft Remedial Action (RA) Work Plan, which will include a Construction Management Plan, a Construction Quality Assurance Plan, and a Construction Health and Safety Plan/Contingency Plan. The RA Work Plan, Construction Management Plan, and Construction Quality Assurance Plan must be reviewed and approved by EPA, and the Construction Health and Safety Plan/Contingency Plan must be reviewed by EPA, prior to the initiation of the Remedial Action.

Upon approval of the Final Design and the RA Work Plan, Settling Defendant shall implement the RA Work Plan in accordance with the construction management schedule. Significant field changes to the RA as set forth in the RA Work Plan and Final Design shall not be undertaken without the written approval of EPA. The RA shall be documented in enough detail to produce as-built construction drawings after the RA is complete.

Deliverables shall be submitted to EPA for review and approval in accordance with Section XI of the Consent Decree. Review and/or approval of submittals does not imply acceptance of later submittals that have not been reviewed, nor that the remedy, when constructed, will meet Performance Standards.

a. RA Work Plan

A Work Plan which provides a detailed plan of action for completing the RA activities shall be submitted to EPA for review and approval. The objective of this work plan is to provide for the safe and efficient completion of the RA. The Work Plan shall be developed in conjunction with the Construction Management Plan, the Construction Quality Assurance Plan, and the Construction Health and Safety Plan/Contingency Plan, all of which will be included in the RA Work Plan as attachments. The Work Plan shall include a comprehensive description of the work to be performed and the Final Construction schedule for completion of each major activity and submission of each deliverable.

Specifically, the Work Plan shall present the following.

- i. A detailed description of the tasks to be performed and a description of the work products to be submitted to EPA
- ii. A schedule for completion of each required activity and submission of each deliverable required by this Consent Decree, including those in this SOW

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- iii. A project management plan, including provision for monthly reports to EPA and meetings and presentations to EPA at the conclusion of each major phase of the RA. EPA's Project Coordinator and the Settling Defendant's Project Coordinator will meet, at a minimum, on a quarterly basis, unless EPA determines that such meeting is unnecessary.
- iv. A description of the community relations support activities to be conducted during the RA. At EPA's request, Settling Defendant shall assist EPA in preparing and disseminating information to the public regarding the RA work to be performed.

b. Construction Management Plan

A Construction Management Plan shall be developed to indicate how the construction activities are to be implemented and coordinated with EPA during the RA. Settling Defendant shall designate a person to be a Remedial Action Coordinator and its representative on-site during the remedial action, and identify this person in the Plan. This Plan shall also identify other key project management personnel and lines of authority, and provide descriptions of the duties of the key personnel along with an organizational chart. In addition, a plan for the administration of construction changes and EPA review and approval of those changes shall be included.

c. Construction Quality Assurance Plan

Settling Defendant shall develop and implement a Construction Quality Assurance Program to ensure, with a reasonable degree of certainty, that the completed Remedial Action meets or exceeds all design criteria, plans and specifications, and performance standards. At a minimum, the Construction Quality Assurance Plan shall include the following elements.

- i. A description of the quality control organization, including a chart showing lines of authority, identification of the members of the Independent Quality Assurance Team (IQAT), and acknowledgment that the IQAT will implement the control system for all aspects of the work specified and shall report to the project coordinator and EPA. The IQAT members shall be representatives from testing and inspection organizations and/or the Supervising Contractor and shall be responsible for the QA/QC of the Remedial Action. The members of the IQAT shall be professionals in good professional standing with previous experience in the type of QA/QC activities to be implemented, and demonstrated capability to perform the required activities. They shall also be independent of the construction contractor.

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- ii. The name, qualifications, duties, authorities, and responsibilities of each person assigned a QC function
- iii. Description of the observations and control testing that will be used to monitor the construction and/or installation of the components of the Remedial action. This includes information which certifies that personnel and laboratories performing the tests are qualified and the equipment and procedures to be used comply with applicable standards. Any laboratories to be used shall be specified. Acceptance/Rejection criteria and plans for implementing corrective measures shall be addressed.
- iv. A schedule for managing submittals, testing, inspections, and any other QA function (including those of contractors, subcontractors, fabricators, suppliers, purchasing agents, etc.) that involve assuring quality workmanship, verifying compliance with the plans and specifications, or any other QC objectives. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality and emissions monitoring records and waste disposal records, etc.
- v. Reporting procedures and reporting format for QA/QC activities including such items as daily summary reports, schedule of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation.
- vi. A list of definable features of the work to be performed. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements.

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d. Construction Health and Safety Plan/ Contingency Plan

Settling Defendant shall prepare a Construction Health and Safety Plan/Contingency Plan in conformance with Settling Defendant's health and safety program, and in compliance with OSHA regulations and protocols. The Construction Health and safety Plan shall include a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and site control. EPA will not approve Settling Defendant's Construction Health and Safety Plan/Contingency Plan, but rather EPA will review it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment. This plan shall include a Contingency Plan and incorporate Air Monitoring and Spill Control and Countermeasures Plans if determined by EPA to be applicable for the Site. The Contingency Plan is to be written for the onsite construction workers and the local affected population. It shall include the following items.

- i. Name of person who will be responsible in the event of an emergency incident
- ii. Plan for initial site safety indoctrination and training for all employees, name of the persons who will give the training and the topics to be covered
- iii. Plan and date for meeting with the local community, including local, state and federal agencies involved in the cleanup, as well as the local emergency squads and the local hospitals
- iv. A list of the first aid and medical facilities including, location of first aid kits, names of personnel trained in first aid, a clearly marked map with the route to the nearest medical facility, all necessary emergency phone numbers conspicuously posted at the job site (i.e., fire, rescue, local hazardous material teams, National Emergency Response Team, etc.)
- v. Plans for protection of public and visitors to the job site
- vi. Plans for Air Monitoring. Due to the nature of the work to be conducted at the site the potential for generation of airborne dust during remedial action is limited. Therefore, site-wide air monitoring will not be required during remedial action. Air monitoring in conjunction with health and safety efforts for individual elements of work may, however, be required. Requirements for health and safety, including air monitoring, will be included in the work element specific remedial action work plans.

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2. **Prefinal Construction Inspection**

Upon preliminary project completion Settling Defendant shall notify EPA for the purpose of conducting a Prefinal Construction Inspection. Participants should include the Project Coordinators, Supervising Contractor, Construction Contractor, and other federal, state, and local agencies with an expressed jurisdictional interest. The Prefinal Inspection shall consist of a walk-through inspection of the entire project site. The objective of the inspection is to determine whether the construction is complete and consistent with the Consent Decree. Any outstanding construction items discovered during the inspection shall be identified and noted on a punch list. Additionally, treatment equipment shall be operationally tested by Settling Defendant. Settling Defendant shall certify that the equipment has performed to effectively meet the purpose and intent of the specifications. Retesting shall be completed where deficiencies are revealed. A Prefinal Construction Inspection Report shall be submitted by Settling Defendant which outlines the outstanding construction items, actions required to resolve the items, completion date for the items, and an anticipated date for the Final Inspection.

3. **Final Construction Inspection**

Upon completion of all outstanding construction items, Settling Defendant shall notify EPA for the purpose of conducting a Final Construction Inspection. The Final Construction Inspection shall consist of a walk-through inspection of the entire project site. The Prefinal Construction Inspection Report shall be used as a check list with the Final Construction Inspection focusing on the outstanding construction items identified in the Prefinal Construction Inspection. All tests that were originally unsatisfactory shall be conducted again. Confirmation shall be made during the Final Construction Inspection that all outstanding items have been resolved. Any outstanding construction items discovered during the inspection still requiring correction shall be identified and noted on a punch list. If any items are still unresolved, the inspection shall be considered to be a Prefinal Construction Inspection requiring another Prefinal Construction Inspection Report and subsequent Final Construction Inspection.

4. **Final Construction Completion Report**

Within thirty (30) days following the conclusion of the Final Construction Inspection, Settling Defendant shall submit a Final Construction Completion Report. EPA will review the draft report and will provide comments to Settling Defendant. The Final Construction Report shall include the following:

- Brief description of how outstanding Prefinal Inspection issues were resolved
- Explanation of modifications made during the RA to the original RD and RA Work Plans and why these changes were made
- As-built drawings
- Synopsis of the construction work defined in the SOW and certification that the construction work has been completed.

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5. Remedial Action Certification Report

As provided in Section XIV of the Consent Decree, within 90 days after Settling Defendant concludes that the Remedial Action for a specific element of work has been fully performed and the performance standards have been attained, Settling Defendant shall so certify to the United States and shall schedule and conduct a pre-certification inspection to be attended by EPA and Settling Defendant. If after the pre-certification inspection Settling Defendant still believes that the Remedial Action for a specific element of work has been fully performed and the performance standards have been attained, Settling Defendant shall submit a Remedial Action (RA) Certification Report to EPA in accordance with Section XIV of the Consent Decree. The RA Report shall include the following.

- A copy of the Final Construction Completion Report
- Synopsis of the work defined in this SOW for the specific element of work and a demonstration that performance standards have been achieved
- Certification that the Remedial Action for a specific element of work has been completed in full satisfaction of the requirements of the Consent Decree
- A description of how Settling Defendant will implement any remaining part of the EPA approved Operation and Maintenance Plan

After EPA review, Settling Defendant shall address any comments and submit a revised report. As provided in Section XIV of the Consent Decree, the Remedial Action for a specific element of work shall not be considered complete until EPA approves the RA Certification Report.

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E. Operation And Maintenance

Operation and Maintenance (O&M) shall be performed in accordance with the approved Operation and Maintenance Plan.

1. Operation and Maintenance Plan

At the 90 percent (Prefinal) design stage, Settling Defendant shall submit an Operation and Maintenance Plan for review. The Operation and Maintenance Plan must be reviewed and approved by EPA prior to initiation of Operation and Maintenance activities. If necessary, the Operation and Maintenance Plan shall be modified to incorporate any design modifications implemented during the Remedial Action.

Upon approval of the Operation and Maintenance Plan, Settling Defendant shall implement the Operation and Maintenance Plan in accordance with the schedule contained therein. This plan shall describe start-up procedures, operation, troubleshooting, training, and evaluation activities that shall be carried out by Settling Defendant. The plan shall address the following elements.

a. Equipment start-up and operator training

- technical specifications governing treatment systems
- requirements for providing appropriate service visits by experienced personnel to supervise the installation, adjustment, start-up and operation of the systems
- schedule for training personnel regarding appropriate operational procedures once start-up has been successfully completed

b. Description of normal operation and maintenance

- tasks required for system operation
- tasks required for system maintenance
- prescribed treatment or operating conditions
- schedule showing required frequency for each O&M task

c. Description of potential operating problems

- description and analysis of potential operating problems
- sources of information regarding problems
- common remedies or anticipated corrective actions

d. Description of routine monitoring and laboratory testing

- description of monitoring tasks
- description of required laboratory tests and their interpretation
- required QA/QC
- schedule of monitoring frequency and date, if appropriate, when monitoring may cease.

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e. Description of alternate O&M

- should any system fail, alternate procedures to prevent undue hazard
- analysis of vulnerability and additional resource requirements should a failure occur.

f. Safety Plan

- description of precautions to be taken and required health and safety equipment, etc., for site personnel protection, and
- safety tasks required in the event of systems failure.

g. Description of equipment

- identification
- installation of monitoring components
- maintenance of site equipment
- replacement schedule for equipment and installation components

h. Records and reporting

- daily operating logs
- laboratory records
- records of operating cost
- mechanism for reporting emergencies
- personnel and maintenance records
- monthly reports to State/Federal agencies

2. Operation and Maintenance Manual

At the 90 percent (Prefinal) design stage, Settling Defendant shall submit an O&M manual for review. This manual shall include all necessary O&M information for the operating personnel. The O&M manual must be reviewed and approved by EPA prior to initiation of Operation and Maintenance activities.

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F. Performance Monitoring

Performance monitoring shall be conducted to ensure that all performance standards are met. The plans for performance monitoring to verify compliance with performance standards shall be included in the RA Work Plans for each Element of Work, as described in Section IIID. The monitoring program included in the Groundwater Monitoring element of work will address the performance monitoring requirements for the Groundwater Extraction element of work. The performance monitoring procedures contained in each RA Work Plan shall include the following components.

1. Sampling and Analysis Plan

The Sampling and Analysis Plan provides guidance for all fieldwork by defining in detail the sampling and data gathering methods to be used. The Sampling and Analysis Plan shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required.

2. Quality Assurance/Quality Control Plan

The Quality Assurance/Quality Control plan describes the quality assurance and quality control protocols which will be followed in demonstrating compliance with performance standards.

3. Specifications

Specifications of those tasks to be performed by Settling Defendant to demonstrate compliance with the performance standards and a schedule for the performance of these tasks.

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V. SUMMARY OF MAJOR DELIVERABLES

The major deliverables to implement the remedy are organized below by each element of work. Depending on the status of the design. The plans and reports listed below will follow the general descriptions provided in Section IV. Plans and reports may be combined with EPA approval. The schedule for submitting the plans and reports listed below is presented in Section VI.

A. Former East Overflow Pond

For the Former East Overflow Pond element of work, the following deliverables are required

- Construction Completion Report
- Completion of RA Certification Report

B. Dewatering Pit

For the Dewatering Pit element of work, the following deliverables are required

- Pre-Final Remedial Design Report
- Final Remedial Design Report
- Remedial Action Work Plan
- Construction Completion Report
- Completion of Remedial Action Certification Report

C. Gypstack Roads

For the Gypstack Roads element of work, the following deliverables are required

- Draft Remedial Design Report
- Pre-Final Remedial Design Report
- Final Remedial Design Report
- Remedial Action Work Plan
- Operation and Maintenance Plan
- Construction Completion Report
- Completion of Remedial Action Certification Report

D. Groundwater Extraction

For the Groundwater Extraction element of work, the following deliverables are required

- Draft Remedial Design Report
- Pre-Final Remedial Design Report
- Operation & Maintenance Plan
- Final Remedial Design Report
- Remedial Action Work Plan
- Construction Completion Report
- Completion of Remedial Action Certification Report

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E. Groundwater Monitoring

For the Groundwater Monitoring element of work, the following deliverables are required

- Pre-Final Remedial Design Report
- Final Remedial Design Report
- Remedial Action Work Plan
- Validated Data Reports (within 90 days of sampling)
- Monitoring Reports (within 30 days of receipt of validated data)
- Quarterly Extraction System Evaluation Reports (for the system startup period only)
- Annual Extraction System and Groundwater Monitoring Evaluation Reports

F. Simplot Plant Area Institutional Controls Program

- Draft Simplot Plant Area Institutional Controls Program
- Final Simplot Plant Area Institutional Controls Program

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VI. PROJECT SCHEDULE

The project schedule for the overall remedy and each element of work are provided in this section. Specifically, the deliverables listed in Section V. are repeated below for each Element of Work with the due dates relative to lodging of the Consent Decree and the subsequent review and approval by EPA.

Former East Overflow Pond Element of Work - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Construction Completion Report	within 90 days of Consent Decree entry
Completion of RA Certification Report	within 90 days after pre-certification inspection

Dewatering Pit Element of Work - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Pre-Final Remedial Design Report	within 90 days of Consent Decree entry
Final Remedial Design Report	within 30 days of EPA comments on Pre-Final RDR
Remedial Action Work Plan	concurrent with submittal of Final RDR
Construction Completion Report	within 30 days after Final Construction Inspection
Completion of RA Certification Report	within 90 days after pre-certification inspection

Gypsum Roads Element of Work - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Draft Remedial Design Report	within 90 days of Consent Decree entry
Pre-Final Remedial Design Report	within 60 days of receipt of comments on Draft RDR
Operation & Maintenance Plan	concurrently with Pre-Final RDR
Final Remedial Design Report	within 30 days of EPA comments on Pre-Final RDR
Remedial Action Work Plan	concurrent with submittal of Final RDR
Construction Completion Report	within 30 days after Final Construction Inspection
Completion of RA Certification Report	within 90 days after pre-certification inspection

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Groundwater Extraction Element of Work - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Draft Remedial Design Report	within 90 days of Consent Decree entry
Pre-Final Remedial Design Report	within 90 days of comments on Draft RDR
Operation & Maintenance Plan	concurrently with Pre-Final RDR
Final Remedial Design Report	within 30 days of EPA comments on Pre-Final RDR
Remedial Action Work Plan	concurrent with submittal of Final RDR
Construction Completion Report	within 30 days after Final Construction Inspection
Completion of RA Certification Report	within 90 days after pre-certification inspection

Groundwater Monitoring Element of Work - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Pre-Final Remedial Design Report	within 90 days of Consent Decree entry
Final Remedial Design Report	within 30 days of EPA comments on Pre-Final RDR
Remedial Action Work Plan	concurrent with submittal of Final RDR
Validated Data Reports	within 90 days of completion of sampling
Monitoring Reports	30 days following receipt of validated monitoring data
Quarterly Extraction System Evaluation Reports (for system startup period only)	within 30 days following the end of the previous calendar quarter
Annual Extraction System and Groundwater Monitoring Evaluation Reports	within 60 days after end of annual monitoring period

Simplot Plant Area Institutional Controls Program Element of Work - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Simplot Plant Area Institutional Controls Program	within 90 days after Consent Decree entry

Other Deliverables - General Schedule

<i>Deliverable</i>	<i>Due Date</i>
Monthly Progress Reports (comprehensive reports for all RA work)	10th day of each month following the reporting period
Technical Memoranda	as required to support design or RA modifications

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REFERENCES

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RD/RA process. Settling Defendant shall review these guidance and shall use the information provided therein in performing the RD/RA and preparing all deliverables under this SOW.

1. "National Oil and Hazardous Substances Pollution Contingency Plan, Final Rule", Federal Register 40 CFR Part 300, March 8, 1990.
2. "Superfund Remedial Design and Remedial Action Guidance," U.S. EPA, Office of Emergency and Remedial Response, June 1986, OSWER Directive No. 9355.O-4A.
3. "Interim Final Guidance on Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties," U.S. EPA, Office of Emergency and Remedial Response, February 14, 1990, OSWER Directive No. 9355.5-.01.
4. "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final," U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 355.3-01.
5. "A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.O-14.
6. "EPA NEIC Policies and Procedures Manual," EPA-330/9-78-001-R, May 1978, revised November 1994.
7. "Data Quality Objectives for Remedial Response Activities," U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.O-7B.
8. "Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMA-004/80, December 29, 1980.
9. "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.
10. "Users Guide to the EPA Contract Laboratory Program," U.S. EPA, Sample Management Office, August 1982.
11. "Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual," U.S. EPA Region IV, Environmental Services Division, February 1, 1991, (revised periodically).
12. "USEPA Contract Laboratory Program Statement of Work for Organic Analysis," U.S. EPA, Office of Emergency and Remedial Response, February 1988.

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- . "USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis," U.S. EPA, Office of Emergency and Remedial Response, July 1988.
- . "Quality in the Constructed Project: A Guideline for Owners, Designers, and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment," American Society of Civil Engineers, May 1988.
- . "Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements," U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.
- . "CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (Draft), OSWER Directive No. 9234.1-01 and -02.
- . "Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S. EPA, Office of Emergency and Remedial Response, (Draft), OSWER Directive No. 9283.1-2.
- . "Guide for Conducting Treatability Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, Pre-publication Version.
- 19. "Health and Safety Requirements of Employees Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.
- 20. "Standard Operating Safety Guides," U.S. EPA, Office of Emergency and Remedial Response, November 1984.
- . "Standards for General Industry," 29 CFR Part 1910, Occupational Health and Safety Administration.
- . "Standards for the Construction Industry," 29 CFR 1926, Occupational Health and Safety Administration.
- . "NIOSH Manual of Analytical Methods," 2d edition. Volumes I-VII, or the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.
- . "Occupational Safety and Health Guidance Manual for Hazardous Waste Site activities," National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1985.
- . "TLVs - Threshold Limit Values and Biological Exposure Indices for 1987 - 88," American Conference of Governmental Industrial Hygienists.
- . "American National Standards Practices for Respiratory Protection," American National Standards Institute Z88.2-1980, March 11, 1981.
- . "Quality in the Constructed Project - Volume 1," American Society of Civil Engineers, 1990.

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[Other guidance referenced in CD that are not listed above (i.e., AQ, Sample and Data Analysis, etc.)]